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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/817,161

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Craig Weissman

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EXAMINER

HARPER, LEON JONATHAN

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,161	<b>Applicant(s)</b> WEISSMAN ET AL.	
	<b>Examiner</b> LEON HARPER	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is responsive to communications: Appeal Brief filed 11/12/2008 to the original application filed 4/2/2004. Claims 1-26 are pending in this office action. Claims 1,5,9, 20, 21-23 are in independent claim. In view of the Appeal Brief filed, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 20050071345 (hereinafter Lin) in view of US 2002 0174128 (hereinafter Govind)

As for claim 1 Lin discloses: defining a multi-tenant data structure having a plurality of data columns and one or more index columns; defining a first data field for a first tenant, said first field having a first data type (See paragraph 0028); defining a second data field for a second tenant, said second field having a second data type, wherein the second data type may be different than said first data type (See paragraph 0028); and when records having data values in the first and second fields are created by the first and second tenants, storing the data values of first and second fields to a single column in the data structure, ( See paragraph 0031).

Lin does not disclose: wherein the single column includes data values that may include different data types for different tenants. Govind however does disclose: wherein the single column includes data values that may include different data types for different tenants (See paragraph 0084). It would have been obvious to an artisan of ordinary skill in the pertinent at the time the invention was made to have incorporated the teaching of Govind into the system of Lin. The modification would have been obvious because the two references are concerned with the solution to problem of data processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Govind teaching would enable user's of the Lin system to store

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information from the different users in user defined data types (See Govind paragraph 0064).

As for claim 2 the rejection of claim 1 is incorporated and further Lin discloses: defining a separate data structure having one or more columns; and in response to an indication from one of the first tenant and the second tenant that data in the first data field or second data field, respectively, be unique, copying the data values stored in the single data column corresponding to the first data field or second data field, respectively, to a column in the separate data structure. (See paragraph 0037)

As for claim 3 the rejection of claim 1 is incorporated and further Lin discloses: copying to a first one of the index columns the data values stored in the single data column for the first field in response to a request from the first tenant to index data in the first data field (See paragraph 0040).

As for claim 4 the rejection of claim 1 is incorporated and further Lin discloses: wherein the copying includes converting the copied data values to a modified format (See paragraph 0071)

As for claim 5 Lin discloses: defining a first table for a first tenant, said first table having a first data field, and said first tenant having a first tenant id;

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assigning a first table id to the first table (See paragraph 0028); defining a second table for a second tenant, said second table having a second data field, and said second tenant having a second tenant id; assigning a second table id to the second table (See paragraph 0033); wherein when records are created for the first table by the first tenant, for each created record: a) storing the value of the first data field to a single data column in the data structure (See paragraph 0036); b) storing the first tenant id in the organization id column; and c) storing the first table id to the primary key column; and wherein when records are created for the second table by the second tenant, for each created record (See paragraphs 0049-0051, 0056): a) storing the value of the second data field to said single data column in the data structure; b) storing the second tenant id in the organization id column; and c) storing the second table id to the primary key column; and wherein the first and second tables of the first and second tenants are stored in the data structure. (See paragraph 0026)

Lin does not disclose: defining a multi-tenant data structure having a primary key column, an organization id column and a plurality of data columns; Govind does disclose defining a multi-tenant data structure having a primary key column, an organization id column and a plurality of data columns (See paragraph 0045). It would have been obvious to an artisan of ordinary skill in the pertinent art at the time the invention was made to have incorporated the teaching of Govind into the system of Lin. The modification would have been obvious because the two references are concerned with the solution to problem of data

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processing, therefore there is an implicit motivation to combine these references. In other words, the ordinary skilled artisan, during his/her quest for a solution to the cited problem, would look to the cited references at the time the invention was made. Consequently, the ordinary skilled artisan would have been motivated to combine the cited references since Govind teaching would enable user's of the Lin system to store information from the different users in user defined data types (See Govind paragraph 0064).

As for claim 6 the rejection of claim 1 is incorporated and further Govind discloses: copying to a first one of the index columns the data values stored in the single data column for the first table in response to a request from the first tenant to index data in the first data field (See paragraph 0065).

As for claim 7 the rejection of claim 1 is incorporated and further Lin discloses: identifying the data values to be copied based on the first tenant id, the first table id and the first data field (See paragraph 0037).

As for claim 8 the rejection of claim 1 is incorporated and further Govind discloses: wherein said first data field has a first data type, and wherein said second data field has a second data type different from the first data type, such that said single data column includes data values having said first and second data types. (See paragraph 0045).

Claim 9 is a computer-implemented method substantially corresponding to the method of claim 5 and is thus rejected for the same reasons as set forth in the rejection of claim 9.

As for claim 10 the rejection of claim 9 is incorporated and further Govind discloses: defining a third table for a second tenant, said third table having a third data field, said third data field having a third data type, and said second tenant having a second tenant id; and assigning a third table id to the third table (See paragraphs 0084-0086) ; wherein when records are created for the third table, for each created record (See paragraphs 0105-0109): While Lin discloses: storing the value of the third data field to said single data column in the data structure; storing the second tenant id in the organization id column; and storing the third table id to the primary key column (See figure 1) ; wherein the first, second and third tables are stored in the data structure, and wherein said single data column includes data values having said first and second data types and said third data type (See paragraph 0029-0030).

As for claim 11 the rejection of claim 9 is incorporated and further Lin discloses: wherein the first and second table ids are different (See paragraph 0031).

As for claim 12 the rejection of claim 9 is incorporated and further Lin discloses: wherein the first and second table ids are different, and wherein the



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third table id is the same as one of the first and second table ids (See paragraph 0033) .

As for claim 13 the rejection of claim 9 is incorporated and further Lin discloses: copying to a first one of the index columns the data values stored in the single data column for the first table in response to a request from the first tenant to index data in the first data field (See paragraph 0044).

As for claim 14 the rejection of claim 9 is incorporated and further Lin discloses: wherein copying includes converting the copied data values to a modified format (See paragraph 0032).

As for claim 15 the rejection of claim 9 is incorporated and further Govind discloses: wherein converting includes applying a case folding algorithm to the data values (See paragraph 0064)

As for claim 16 the rejection of claim 9 is incorporated and further Lin discloses: wherein said third data type is selected from the group consisting of said first data type, said second data type and a data type different from the first and second data types (See paragraph 0030)

As for claim 17 the rejection of claim 9 is incorporated and further Govind discloses: wherein when the first tenant creates a record for the first table,

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executing a process that determines whether the data value in the first data field for that record satisfies a threshold criteria, and if so, processing an action rule (See paragraphs 0088-0090)

As for claim 18 the rejection of claim 9 is incorporated and further Govind discloses: wherein the action rule indicates a recipient of a notification, the method further including automatically sending a notification message to the recipient (See paragraph 0118)

As for claim 19 the rejection of claim 9 is incorporated and further Lin discloses: defining an owner field for the first data table, wherein each data value stored in the owner field indicates an hierarchical user access level for the associated record (See paragraph 0093).

Claims 20-23 are computer readable medium, database system claims substantially corresponding to claims 1 and 5 and are thus rejected for the same reasons as set forth in the rejection of claims 1 and 5.

As for claim 24 the rejection of claim 1 is incorporated and further Lin discloses: wherein the multi-tenant data structure comprises a relational database data structure (See paragraph 0005)

As for claim 25 the rejection of claim 4 is incorporated and further Govind discloses: wherein the converting includes applying a case folding algorithm to the data values (See paragraph 0064)

As for claim 26 the rejection of claim 4 is incorporated and further Govind discloses: wherein the modified format comprises a common data type corresponding to the index column. (See paragraph 0070)

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### **Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON HARPER whose telephone number is (571)272-0759. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*LJH*  
*Leon J. Harper*  
*February 16, 2009*

/Hosain T Alam/

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Supervisory Patent Examiner, Art Unit 2166